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| 10/736,538 | 12/17/2003 | Takemori Takayama | KOM-140/INO/DIV | 5633 |

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EXAMINER

WYSZOMIERSKI, GEORGE P

ART UNIT PAPER NUMBER

1742

DATE MAILED: 09/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/736,538

Applicant(s)

TAKAYAMA ET AL.

Examiner

George P. Wyszomierski

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/17/03 (Divisional Appl.).
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-28 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 21 and 23-28 is/are rejected.
7) ☒ Claim(s) 22 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10/011,815.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/17/03
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

Claim Interpretation

1. The examiner notes that the "when" clauses of the last six lines of claim 21 and the last two lines of claim 22 are optional, i.e. the steps recited in these clauses are not required by the instant claims.

2. Claims 23-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) In claim 23, line 3, "said bonding temperature" lacks proper antecedent basis.

b) In line 3 of each of claims 24 and 25, "the sliding contact surface" lacks proper antecedent basis.

c) Claim 26 as drafted is dependent on claim "32", which does not exist. For purposes of examination, claim 26 is being treated as dependent upon claim 28.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 21 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers (U.S. Patent 4,438,004).

Myers discloses integrating a sintered material containing amounts of iron and copper as required by the instant claims, as well as aluminum, to a steel backing plate. Myers uses this

material as a friction material in a brake pad; it is thus a reasonable assumption that backing plates that are substantially cylindrical would fall within the purview of the Myers reference.

Myers does not state the function of the various components of this system as claimed, i.e. does not state that the iron causes an order-disorder transition, that the aluminum causes expansion, or that the copper is used as an element for generating a liquid phase. However, given that these components may be present in the same amounts in both the process disclosed by Myers and that as claimed, it is a reasonable assumption that the functions or resultant effects of these components would likewise be the same in both the prior art and the claimed invention.

Consequently, a prima facie case of obviousness is established between the disclosure of Myers and the presently claimed invention.

5. Claims 26, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (U.S. Patent 4,505,987). [The examiner is treating claim 26 as dependent on claim 28, as noted supra].

Yamada example 1 discloses a process substantially as presently claimed, i.e. uniformly scattering powders containing amounts of iron, copper and tin as required by the instant claims onto the surface of a steel sheet, sintering in a reducing atmosphere, rolling, resintering in the reducing atmosphere, and rolling into a cylindrical configuration; see Yamada column 4, lines 23-68. Yamada does not specify that the iron in the material that is sintered causes order-disorder transition, as required by the instant claims. However, given that the actual composition of the materials as well as the process steps used may be identical in the prior art and the claimed invention, it is a reasonable assumption that the resultant effect of the iron

would likewise be the same. Thus, a prima facie case of obviousness is established between the process disclosed by Yamada et al. and that as presently claimed.

6. Claims 21, 26, 27 and 28 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,428,744. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the '744 claims and the instant claims are directed to processes of sinter bonding an iron or copper based material to an iron-based backing. Particularly, claim 5 of the '744 patent recites this step, and claim 6 of the '744 patent recites steps substantially as recited in instant claim 26. While the precise wording of the claims is substantially different in the '744 patent and the instant claims, both sets of claims appear to be directed to the same series of process steps, performed in the same order to the same effect in both instances. Thus, no patentable distinction is seen between the process of the '744 claims and that as define in the instant claims.


7. Claim 22 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and claims 23-25 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. All patent application related correspondence transmitted by facsimile must be directed to the central facsimile number, (571)-273-8300. This Central FAX Number is the result of relocating the Central FAX server to the Office's Alexandria, Virginia campus.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


GEORGE WYSZOMIERSKI
PRIMARY EXAMINER
GROUP 1700

GPW

September 26, 2006